

# AERIAL APPLICATION ASSOCIATION OF AUSTRALIA LTD.

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Committee Secretary  
Senate Standing Committees on Rural and Regional Affairs and Transport  
Inquiry into Drones  
Parliament House  
Canberra ACT 2600

## **AAAA Submission - Drones**

### **Introduction**

AAAA is the peak industry body representing business owners and pilots involved in the aerial application of crop protection products, firebombing and related operations. The Association was established in 1958 and has a long track record of working positively on aviation safety and regulatory issues.

The members' operations require them to work at low level - often a few metres above a crop or higher when sowing, fertilising or firebombing. Almost all operations will be conducted below 400' - creating a direct conflict with drone use in the same airspace.

### **Key Risk Not Mitigated**

AAAA believes that the key risk that CASA has failed to address is separation between legitimate and legal low level airspace users and drones.

Airspace users affected include aircraft used for aerial application, survey, mustering, pest control, slinging, fire observation, emergency rescue and other aerial work activities.

In addition, all other aircraft approaching, landing, taking off and departing from private, agricultural or other airstrips are not protected by current laws.

In addressing this primary risk of a breakdown of separation - which AAAA has raised with CASA many times - it would not be unreasonable to expect CASA to have established a real time system of communication between drone users and existing low-level airspace users to allow them to make local arrangements for adequate self-separation.

No such communication system is in place and consequently this primary risk remains unmitigated.

The current NOTAM system is simple not adequate to cope with this risk given the likely number of interactions, the variability of geography covered on an hourly basis and the essential immediacy necessary for timely notification and further communication between parties.

AAAA believes that the current CASA approach of deregulating drones up to 2 kg generally and up to 25 kg when used on farm - without a commensurate system to facilitate notification and communication - is fundamentally flawed from an aviation safety perspective.

It is not the low kinetic energy of the drone that is at issue - it is the kinetic energy of the low level aircraft weighing several tonnes, travelling at approximately 250 km/h and with a vulnerable pilot at the controls protected by a thin sheet of Perspex and powered by an engine that would be highly likely to fail should a drone be ingested or hit a control surface. The consequence of such an event could be significant, especially for the pilot.

Again, AAAA has raised these issues with CASA and been consistently ignored, as demonstrated by the current regulations that ignore this very real risk.

A number of safety reports made to ATSB involving conflict between drones and other aircraft clearly demonstrate that this risk is not theoretical and not able to be managed given the current lack of a coherent notification/communication system.

There are many examples of GIS based apps that already perform this type of function in other areas. One example is the BeeConnected app - <http://beeconnected.org.au/> - developed by Croplife and the Australian Honey Bee Council and of which AAAA is a strong supporter. This app allows spray contractors and apiarists to work together to manage a range of risks and is based on the principles of notification and communication.

The technology is obviously available and being successfully used in other sectors.

CASA - or the management of AirServices - has simply not considered the potential of such an approach to improve safety in this area. GIS technology combined with smart phones or other devices would lend itself to improving safety across a wide range of low level airspace issues.

This could include, for example, better and more timely notification of wind monitoring towers, wind farms, radio towers, powerline marking etc - information that is critical to low-level aviation but which is simply not made available through existing charts in a timely manner for operations that are highly seasonal, highly mobile and require constant variation and rescheduling due to weather and other operational considerations.

Clearly, such an approach would be a win-win scenario for drone operators, low-level operators, the regulator CASA and the airspace service provider AirServices - but unfortunately appears to be beyond the imagination or knowledge of those determining current drone regulations and responses to the clear primary risk of separation.

### **Key Issues Requiring New Consultation and Regulations**

The following additional issues may also be useful in establishing for the Inquiry core issues of concern to industry and potential ways forward to improving safety:

**Communication** – the critical factor to improving safety is to use modern technology to facilitate improved communication between drone users and legitimate users of low-level airspace as outlined above.

**Education** – improved education of the wider population and obviously drone users (including hobbyists) regarding drone safety and sharing airspace is critical. While the current campaign

conducted by CASA has some good elements, it is not achieving penetration into the potential drone user community and is basically a toothless threat unless accompanied by high profile prosecutions using significant penalties.

**Enforcement** – while there are regular negative events involving drones, only a few make it to ATSB reports or media reports of prosecutions. CASA penalties in the legislation are not set at a significant level to be a major deterrent to poor or reckless use and should be increased to a maximum penalty – especially for wilful and negligent offences - of up to \$50,000 for an individual and \$100,000 for a corporation. While these levels of penalty may appear to be high, they are unlikely to match the potential loss of income to aircraft operators who have to stand down, or the potential damage to life or property during a bushfire. Without supporting legislation to improve the traceability of drone offences, CASA will be unlikely to mount the high profile prosecutions to establish any deterrence value.

**Deregulation to 2kg** – opposed – need for transparency, accountability and responsibility – see the US FAA model that requires registration. As a minimum, every drone should carry a registration number/engraving so that trace back is possible should the drone crash or cause injury etc. The key risk to be managed remains the lack of a communication system and safe drone use away from the public and other airspace users.

**Deregulation to 25kg on farms** – opposed – as above, but there are additional issues to be considered including the competence of operators of the drone in areas such as aerial application of chemicals including environmental protection, spray quality, drift management and the prime risk of separation through communication.

**Regulation of commercial drone operations** - Commercial drone operations should be required to have systems of management that provide a commensurate level of safety as all other commercial aviation operators.

AAAA supports the following regime for all drones used in a commercial setting to ensure systems are in place to manage the relevant challenges including safety:

- All business owners must operate under the requirements of an AOC or similar and be licensed by the Dept in charge at the State/Territory level for chemical control of use purposes if involved with application of agricultural chemicals.
- All business owners must comply with the full requirements of an operations manual.
- All operations manuals must detail how the operation will manage the risk of airspace sharing, especially with aerial application and other low level users.
- All business owners must have operational control of their personnel.
- All drone operators must be competent and licensed by CASA and the Dept in charge at the State/Territory for chemical control of use if involved with application of agricultural chemicals.
- All drone businesses and operators must comply with similar competence requirements for all other commercial aviation businesses conducting similar operations.

### **Further Information**

If the Committee requires any further information or explanation, please contact the AAAA CEO Mr Phil Hurst on 02 62412100. AAAA would be happy to appear before the Committee should that felt to be valuable by Committee Senators.